DOCUMENT RESUME

ED 369 227 EC 302 957

AUTHOR	Thurlow, Martha L.
TITLE	Implications of Outcomes-Based Education for Children with Disabilities. Synthesis Report 6.
INSTITUTION	National Association of State Directors of Special Education, Alexandria, VA.; National Center on Educational Outcomes, Minneapolis, MN.; Saint Cloud State Univ., MN.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	Apr 93
CONTRACT	H159C00004
NOTE	13p.; Paper presented at the Annual Meeting of the National Association of Private Schools for Exceptional Children (Sanibel Island, FL, January 21, 1993).
PUB TYPE	Speeches/Conference Papers (150) -- Information Analyses (070) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Accountability; *Disabilities; Educational Change; *Educational Methods; Elementary Secondary Education; Evaluation Methods; *Outcomes of Education; School Restructuring; Student Evaluation; *Teaching Models; Theory Practice Relationship
IDENTIFIERS	*Outcome Based Education

ABSTRACT

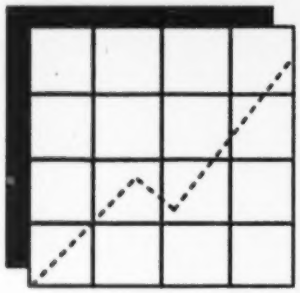
This paper examines the concept of "outcomes-based education" (OBE), how it was developed, how it relates to other current reforms that encompass the notion of outcomes, and how it relates to students with disabilities in theory and in practice. Outcomes-based education holds that all children can learn and succeed and that schools are responsible for ensuring the success of all students. Two major OBE models are John Champlin's Outcomes-Driven Developmental Model and William Spady's High Success Network Strategic Design Model. OBE fits within a range of reforms that address school structure and management, community and business involvement, assessment techniques, and accountability. In theory, OBE is consistent with the belief that students with disabilities may have different learning rates or different learning styles to which instruction needs to be adjusted. In practice, efforts in some states to implement OBE have encountered resistance by state legislatures. Implications of OBE for students with disabilities are outlined. Promises, pitfalls, and challenges associated with outcomes-based education for children with disabilities are highlighted. (Contains 18 references.) (JDD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 369 227

Synthesis Report 6



Implications of Outcomes-Based Education for Children with Disabilities

National Center on Educational Outcomes

The College of Education
UNIVERSITY OF MINNESOTA

in collaboration with

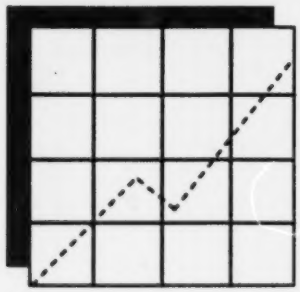
St. Cloud State University
and
National Association of State Directors of Special Education

April, 1993

BEST COPY AVAILABLE

EC 302957

Synthesis Report 6



Implications of Outcomes-Based Education for Children with Disabilities

Martha L. Thurlow

National Center on Educational Outcomes

This report is a paper that was presented on January 21, 1993, at the annual meeting of the National Association of Private Schools for Exceptional Children. The development of this paper was supported through a Cooperative Agreement (H159C00004) with the U.S. Department of Education, Office of Special Education Programs. Opinions or points of view do not necessarily represent those of the U.S. Department of Education or Offices within it.

April, 1993

Implications of Outcomes-Based Education for Children with Disabilities

MARTHA L. THURLOW
National Center on Educational Outcomes

Outcomes-based education has taken the concept of educational reform to new heights. It is sweeping the country with amazing speed, not just at the school level, but at the state level as well. Outcomes-based education is the driving force behind the switch from Carnegie units to specified graduation outcomes that is occurring in some states. Students will receive high school diplomas based on outcomes, not completed coursework. Outcomes become the framework within which schools, both public and private, must work.

Outcomes are statements of expectations that we want students to achieve. The "outcomes" of outcomes-based education are presented as outcomes to be reached by all students. Yet, the implied inclusiveness of the term "all" usually is not reflected in the practice of assessing and presenting information on the attainment of outcomes. Students with disabilities typically are excluded from the assessments of outcomes. The practice of exclusion from assessment leads to questions about the extent to which students with disabilities are considered in the instruction of outcomes-based education. The purpose of this paper is to examine more closely the concept of "outcomes-based education," how it was developed, how it relates to other current reforms that encompass the notion of outcomes, and how it relates to students with disabilities in theory and in practice. The overall objective of this paper is to examine the implications of outcomes-based education for students with disabilities. There are promises, pitfalls, and challenges associated with outcomes-based education for children with disabilities that need to be explored. They are highlighted at the end of the paper.

The discussion in this paper will be from the perspective of the National Center on Educational Outcomes, which was established in 1990 in response to the need to bring students who receive special education services into the discussion of expected educational outcomes. The Center is working with federal and state agencies to identify expected educational outcomes for all students, including those with disabilities. It is working also with several policymaking groups that are developing standards in academic content areas, and other groups that are generating ideas for national tests or systems of assessments. These perspectives have given Center staff opportunities to address the outcomes-based education movement in light of broader considerations. These will be reflected in this paper.

What Is Outcomes-Based Education?

Outcomes-based education, commonly referred to as OBE, is one of the hottest topics in educational reform. It is an approach to education that is distinguished by its underlying premises and its promotion of a belief system. The primary underlying premises are that **all children can learn and succeed** and that **schools are responsible for ensuring the success of all students**. The belief system that OBE promotes is based on two principles:

1. Instruction should be driven by clearly defined outcomes that all students must demonstrate.

2. Schools must provide the opportunity for all students to reach the learning outcomes.

The first principle implies that instruction should not be curriculum driven. The goal of instruction within OBE is to reach a certain outcome, not to make it through a specific book or set of instructional materials and plans. The second principle implies that outcomes are constant, but that the amount of time needed to reach them, as well as the specific instructional techniques used, may vary for different students. This is in contrast to the typical approach, in which time is held constant and outcomes are allowed to vary for different students.

OBE does not promote a specific instructional technique, but rather is quite eclectic in its recommendations for how to improve instruction. OBE emphasizes the use of techniques that have traditionally been shown through research to be effective, such as cooperative learning, peer tutoring, critical thinking strategies, and so forth. Evans and King (1992) note that proponents of OBE think of it as a way to "incorporate all the good ideas of the last ten years" (p. 3).

The principles of OBE sound relatively straightforward. But, in practice they require a significant shift in thinking, as well as some significant changes in how schools are organized. People who promote OBE often speak of the need for a **paradigm shift**, in which common problems are approached from completely new perspectives.

Where Did Outcomes-Based Education Come From?

Outcomes-based education has its roots in mastery learning, competency-based education, and criterion-based measurement. Thus, several decades of educational innovations form the foundation for OBE. OBE is new in that it merges these innovations and aligns learner outcomes, instruction, and assessment-feedback as a triangle that represents all of the students' educational experiences. Learner **outcomes** are the goals or end products of learning. **Instruction** involves adjusting the time, type, and quality of instruction to meet the needs of individual students. **Assessment-feedback** involves using assessment to locate a student's performance on a continuum from no proficiency to perfection.

Within the past decade, there have been two major outcomes-based education models. One is John Champlin's Outcomes-Driven Developmental Model (ODDM). It is this model that is reflected in Johnson City, New York. Another model is William Spady's High Success Network (HSN) Strategic Design Model. This model is reflected in several communities in Colorado and Arizona, as well as in recent state-level efforts. It is Spady's model that is being used by most of the states moving into a state-level OBE framework. Spady is the person who speaks of three types of OBE -- traditional, transitional, and transformational. Traditional OBE is described by Spady as "sprinkling outcomes over the top of existing programs," whereas transformational OBE is an instructional system in which all aspects of instruction are directed toward the outcomes that are to be reached. Transitional OBE is the process of moving from the old to the new paradigm. Some elements of traditional OBE remain in place, but there is a push toward new ways of thinking about instruction. Both Champlin's and Spady's models involve beginning with the identification of outcomes, then refining instructional techniques and aligning the curriculum with the outcomes. School improvements are fostered through the creation of environments that support long-term systemic changes.

What are some outcomes that are being defined within the outcomes-based education model? William Spady often mentions the following five key exit outcomes, which he phrases in terms of what exiting students (all students) will be like:

- self-directed learners
- collaborative workers
- complex thinkers
- community contributors
- quality producers

These outcomes reflect the typical emphasis on identifying the significant spheres of living and the important life-roles within them. According to Spady, the outcomes are the key to OBE:

> What OBE means is that you start with a picture of what you want a kid to do that really matters and you build the curriculum you feel you need to accomplish that outcome. So in the purest sense, the outcome-based model has no curriculum until you know what the outcomes are. Until you know what the outcomes are, you don't know what to teach the kids. ("Bringing OBE to Pennsylvania Schools," 1992, p. 2)

How Does Outcomes-Based Education Relate to Other Educational Reforms?

Outcomes-based education is one of the most often mentioned educational reforms now sweeping our nation. It fits within a range of reforms that address one or more of the following aspects of education:

- school structure and management
- community and business involvement
- assessment techniques
- accountability

Each of these aspects will be discussed only in brief here. A comprehensive bibliography is included with this paper to assist the person interested in obtaining more detailed information about OBE in relation to these aspects of reform.

School Structure and Management

In order to reach transformational OBE, school structure and management must change dramatically. The belief that outcomes should drive instruction rather than curriculum driving instruction implies that schools need to provide students with enough time and different instructional approaches to reach desired outcomes. For some students, this may mean that exit outcomes are reached by age 16. They could graduate at this time, or perhaps continue with extensions of the outcomes, or start taking college credits at the expense of the high school. For other students, it may mean that instruction needs to be provided all year, and maybe on Saturdays as well. Time is considered to be the element that can be varied, not the outcomes. As Spady states, this makes the "whether" of learning more important that the "when" of learning. With time the variable in the equation, Carnegie units as a requirement for graduation make little sense as well. And, if outcomes are defined by real-life goals, content-defined instruction probably also is out-of-date. Integrated curricula devoted to life's issues may be more reasonable. With the clock and calendar constraints removed, a whole range of alternative and innovative approaches to education are possible.

The structure and management of the entire system may need to be revamped. We hear much about Strategic Planning, Planned Change, and Total Quality Management when people talk about the structure and management of schools within an outcomes-based education model. We hear the names of William Cook (The Urgency of Change) and James Deming (Out of the Crisis) mentioned frequently in the context of outcomes-based education.

Community and Business Involvement

The larger community, including business, is really the consumer of the products of education. Community members and businesses want students to leave school ready to be good citizens and good workers. And, because these are the ultimate consumers of the products of education, they need to have a say in the outcomes that are defined for schools. Thus, the link with the community and business is critical in true transformation OBE.

In the view of many, the key links with the community and business are not just related to defining outcomes, however. These constituencies are critical in providing the instruction and experiences of outcomes-based education as well. They are part of the eclectic approach to instruction, which involves community participation, business apprenticeships, group learning, and many other activities within the "broader-than-the-classroom" OBE framework.

Assessment Techniques

Within true OBE, assessment is inextricably linked with instruction and outcomes. Together the three form a triangle in which each affects the others. With outcomes that are defined by the real world, and instruction that is not curriculum bound and is tuned in to real-world outcomes, assessment necessarily will be different from the standard norm-referenced, objective, multiple-choice tests typically found in schools.

Performance assessment (also called authentic assessment or alternative assessment) is becoming the approach of choice. Performance assessment refers to assessment methods that require students to create an answer or product that actually demonstrates their knowledge or skills (Office of Technology Assessment, 1991). We are talking here about **exhibitions**, **portfolios**, **essays**, and **oral presentations**, to name just a few.

Accountability

There has been a strong call for greater educational accountability in the past decade. We are no longer satisfied to know just how many students have attended school or how many teachers are employed. We want to know about the **results** of education. We need to be able to report on the effectiveness of the educational system for producing good citizens and good workers. We want to know that schools are producing young adults who are literate and who can compete in the world economy (or who can even just look good in international comparisons of performance in math and science).

Within the OBE framework, however, national or even state accountability is not the priority. Rather, accountability is taken to the level of the individual student. OBE implementation, in its purist form, means that accountability must change. Beginning with the outcomes that one defines, associated changes need to be made in the grading system and in the report cards used to present information on progress toward outcomes. Accountability within OBE also involves a shift in paradigms that will have an impact on what we know as a nation about the results of education.

In Theory, How Does OBE Relate to Students with Disabilities?

In theory, the assumptions and concepts of outcomes-based education should be wonderful for the education of students with disabilities. In theory, OBE supports the belief commonly promoted by special education that all children can learn. In theory, OBE is consistent with the belief that students with disabilities (and those without as well) may have different learning rates or different learning styles to which instruction needs to be adjusted (as opposed to trying to adjust the student to fit the instruction). With a true paradigm shift, in which instruction is designed to move the student toward the outcome regardless of how long it takes or what specific methods are needed to help the student make it, OBE could be the best of all possible reforms for students with disabilities. But is it? In order to answer that question, it is necessary to examine how OBE is implemented in practice for students with disabilities.

In Practice, How Does OBE Relate to Students with Disabilities?

In order to examine the actual use of OBE for students with disabilities, we need to look at states and schools in which outcomes-based education is occurring. For this purpose, it is helpful to look at events in three states (Minnesota, Kentucky, and Pennsylvania) and to describe the perceptions of people in local school districts.

State OBE efforts have been the dramatic because they usually involve the designation of a set of outcomes that must be met by students in the state in order to receive a high school diploma. If the outcomes are not achievable by all students, then the high school diploma is not something that can be attained by all students.

Minnesota

In Minnesota, the promotion of outcomes at the state level began in 1988. In 1990, the State Board of Education proposed a set of graduation outcomes that students would have to reach in order to graduate from high school. Spady has referred to Minnesota as a state that is involved in authentic OBE:

> It's fair to say in terms of states that until this point in time there has been almost no authentic OBE rhetoric and impetus coming from state departments of education. I think the real exception is Minnesota. Minnesota understands that to implement OBE will mean variability in the amount of time students will take to meet a set of standards -- what we would call a set of performance criteria. It's the meeting of those performance criteria that become the eligibility condition for graduation, not the time spent in class. ("Bringing OBE to Pennsylvania Schools," 1992, p. 2)

Yet, in 1991, the Minnesota state legislature refused to endorse the graduation outcomes, and instead called for further study of the issues, implications, and possibilities of OBE. Many school districts within Minnesota have pursued the implementation of outcomes-based education, even without the state graduation criteria in effect. In these places, outcomes-based education has been seen as appropriate to different degrees for students with disabilities. For example, one teacher in a suburban school district confided that she had been selected to be a member of the district's science outcomes team. The team would be identifying the outcomes that students had to achieve in science. This teacher was concerned because she had observed the math outcomes team work the previous summer. She confided that the team had not really taken an outcomes-driven approach, but rather had looked through the textbook they had been using to identify some outcomes. She further

indicated that no one on that team had a special education background, which meant that students with disabilities were not considered at all during the identification of outcomes, even though they were in the mathematics classrooms. On the other hand, in another school district in Minnesota students with disabilities were expected to reach the same outcomes as other students in a particular class. These students were given the extra support needed to meet the expectations. Among the extra supports were special tutoring outside of normal school hours, an extended school year, and extra help within the classroom. Minnesota has given variances (special waivers and permissions) to selected school districts so that they do not have to meet Carnegie unit requirements.

Kentucky

In Kentucky, reform has been mandated by the courts. In the view of the State's Supreme Court, the educational system had to be completely overhauled. In making such comprehensive changes throughout its system, Kentucky was able to embrace an inclusive educational philosophy. Kentucky identified outcomes for all students in its educational system. These outcomes were that all students will be able to:

(1) Use basic communication and math skills for purposes and situations they encounter in life
(2) Apply core concepts and principles from mathematics, the sciences, arts and humanities, social studies, practical living studies and vocational studies for purposes and situations they encounter in life
(3) Become self-sufficient individuals
(4) Become responsible members of a family, work group, or community
(5) Think and solve problems across the variety of situations they encounter in life
(6) Connect and integrate the knowledge they have gained in school into their own lives.

Within these goals are 75 learner outcomes that also are presented as being for all students. The evaluation of progress on the goals and valued outcomes is set up to include all students. New assessments, many of which are performance assessments, are administered to all students (using a sampling plan) except the students with the most significant cognitive disabilities (and the percentage of such students cannot exceed 2%). For these students, the assessment system is being modified, not the desired outcomes.

Pennsylvania

In Pennsylvania, outcomes-based education came into view in 1992. William Spady worked closely with state officials to develop exit outcomes for students within the state. Exit outcomes were identified and a plan for school district entry in phases into the OBE framework were made. The legislature stopped the progress of the reform, just as it was about to be approved, by calling for restudy of the outcomes that had been defined. In this case, citizens concerned about some of the identified outcomes (such as respecting diversity) had lobbied for reconsideration of outcomes.

Even as the state outcomes are being re-evaluated, local districts are beginning to define their own outcomes within the state framework. The state department is revamping its assessment system with an eye toward the use of performance assessments rather than objective-test assessments. And, state department people appear to be unclear as to how students with disabilities will fit within this new assessment system. A current

view is that the student with disabilities who has an individualized educational program is exempted from other requirements. The question remains as to whether the student is also exempted from outcomes-based education and its graduation requirements.

What Are the Implications of OBE for Students with Disabilities?

In a recent article that appeared in Teaching Exceptional Children, some of the implications of recent educational reform and accountability efforts for children with disabilities were identified. In that article, it was suggested that it is likely that the emphasis on outcomes is going to transfer to special education. Pressures to show the results of special education are likely to come from business people, politicians, parents, and others. In addition, it is likely that in the future, special education will be required to demonstrate that students are meeting defined standards. It is important that special education be in the discussion as our nation talks about the outcomes of education and the application of outcomes-based education.

Spady (1991) identified seven classroom implications of using OBE. These are quoted here because they provide an excellent point for starting the discussion of the promises, pitfalls, and challenges associated with OBE for children with disabilities:

1. Decisions, results, and programs will no longer be defined by and limited to specific time blocks and calendar dates. Things will simply be less time-based than they now are. Students of different ages will learn side-by-side in more flexible delivery systems than we have seen in most schools.

2. Grading and credentialing will be much more criterion-based and will focus on what students can eventually learn to do well rather than on how well they do the first time they encounter something. Averaging systems and comparative grading will disappear as the concept of culminating achievement takes hold.

3. There will be a much greater emphasis on collaborative models of student learning and much less interstudent competition for grades and credentials. The "success for all" principles of OBE will prevail because they are so powerful and so badly needed.

4. Traditional curriculum structures will, in fact, be modified significantly as the system develops the capacity to respond to differences in student needs and learning rates while at the same time helping them accomplish high level outcomes of significance. Not all "courses' will be nine months in length, nor will "passing" require that a given amount of time be spent attending a particular class.

5. Teachers will be much more focused on the learning capabilities of their students and far less on covering a given amount of curriculum in a given time block. At the same time, textbooks will be replaced by intended outcomes of significance as the driving force in curriculum design and delivery, rather than the other way around.

6. Curriculum tracking will disappear, and all instruction will ultimately focus on higher level learning and competencies for

all students. The instructional methods and materials used in gifted and talented programs will be accessible to all students.

7. There will be far less reliance on norm-referenced standardized tests as indicators of either student or teacher accomplishment. Districts will custom-design criterion-based assessment measures that directly operationalize the outcomes they define as most significant. No national or state assessment system will ever be adequate for measuring all of the authentic outcomes of significance that local districts will want to foster. (Spady, 1991, p. 18)

Promises of OBE

As suggested previously, there are many promising aspects associated with outcomes-based education applied to students with disabilities. The notion of starting from what you want the student to know or do (the outcome) and then designing instruction to meet that outcome is right in line with the philosophy of special education. Grading students against their own criterion, rather than in comparison to other students, is in line with the philosophy of special education and the IEP. Assessment for instructional guidance, rather than for accountability only, also is in line with the philosophy of special education. Modifications in curriculum structures to respond to different student needs likewise meets the ideals of special education. Flexibility in time, with greater time provided when it is needed, is the concept behind supplanting instruction rather than supplementing it.

Outcomes-based education seems to hold many promises for the student receiving special education services. These promises hold whether the student is within a public school setting or a private school setting. The promises of OBE grow directly out of the theory of OBE. In theory, OBE should be very helpful to students with disabilities.

Pitfalls of OBE

The pitfalls of OBE arise, for the most part, from the ways in which OBE is being implemented in practice. When implementation stresses unrealistic goals, when the assessment of outcomes becomes high stakes, or when the outcomes, assessment-feedback, instruction triangle drops the instruction angle, then there are many pitfalls awaiting the implementation of outcomes-based education.

The potential promises of OBE begin to disappear when we identify outcomes that do not reflect the diversity of the student population. To the extent that our educational system does not recognize that all youngsters are part of the system, whether they be in public school or private school settings, then the philosophy of outcomes-based education is likely to be a problem for students in special education. This notion is similar to the concept that high school is really for those students planning to attend college, so that coursework and requirements really are relevant only for these students; the other students become part of the infamous "forgotten half" (William T. Grant Foundation Commission on Work, Family, and Citzenship, 1988). When states are identifying educational outcomes, individuals reflecting the diversity of students in schools today, including those with disabilities, must have a voice. The dangers of no voice are reflected in some of the current standards settings activities going on in our nation. For example, the New Standards Project is identifying goals such as algebraic understanding, problem solving capabilities related to specific content areas, and a host of other outcomes that may not be the most relevant for many students with disabilities.

The National Council of Teachers of Mathematics, in developing their curriculum and evaluation standards, did not include representatives of special education in the development of the NCTM standards.

High stakes assessment is assessment in which the results determine what happens to a student, teacher, or school. A decision is made based on test results. The requirement that a student reach a set of state-level outcomes, and show mastery of those outcomes via assessment, is an example. If a student does not pass the state outcomes test, the student does not graduate. This has significant implications for students, teachers, and schools. What often happens when assessments become high stakes is that teachers begin to teach to the tests. For students with disabilities, we often see provisions made for exempting them from having to take the test. Sometimes, alternative forms of passage out of school are developed, such as certificates of completion or other types of graduation diplomas. These policies generate numerous equity, legal, and moral issues for students with disabilities. And every one of these issues is a pitfall.

Perhaps the greatest pitfall in the implementation of OBE for students with disabilities (and for students without disabilities as well) is the possibility of slighting or even deleting the instruction part of the OBE triangle. The great potential of OBE to allow teachers to implement innovative instructional procedures is in danger if teachers do not know about ways in which to change that potential into reality.

Challenges of OBE

The challenges of OBE are associated closely with the pitfalls of OBE. One challenge is to make sure that the outcomes that are identified are valued outcomes for the students we are serving. This means that special educators must be involved in the discussions about valued outcomes. It also means that special educators must be willing to be involved in general assessments of those outcomes.

Many of our national data collection programs in education (e.g., National Assessment of Educational Progress -- NAEP, National Education Longitudinal Study -- NELS, National Adolescent Student Health Survey -- NASHS) currently include private schools in their sampling plans (McGrew, Spiegel, Thurlow, & Ysseldyke, Bruininks, & Shriner, 1992). But they include only about 50% of students with disabilities in the public schools (McGrew, Thurlow, Shriner, & Spiegel, 1992). And, they currently exclude any separate school for students with disabilities. There is a widespread belief that what gets measured is what is valued, and we fear that it may also be true that who gets measured determines who gets valued. It is dangerous not to be included in national educational data collection programs.

Another challenge is the needs that the implementation of OBE will generate. To implement OBE, teachers will need more than inservice training. They will need the support of school-based assistance teams, or the input of expert consultants. Teachers will need the freedom to visit one another's classrooms and to work truly collaboratively and as professionals as they generate and try new approaches. They will need the flexibility to work at varied hours of the day and the week, and the pay for doing so. Motivational speakers are only the first step in a very long process toward the implementation of the philosophy of outcomes-based education.

Bibliography

Abernethy, P. E., & Serfass, R. W. (1992). One district's quality improvement story. Educational Leadership, 50 (3), 14-17.

Bonstingl, J. J. (1992). The quality revolution in education. Educational Leadership, 50 (3), 4-9.

Brandt, R. (1992/1993). On outcome-based education: A conversation with Bill Spady. Educational Leadership, 50 (4), 66-69.

"Bringing OBE to Pennsylvania Schools." (1992, Summer). Forum: A Newsletter of the Instructional Support System of Pennsylvania, 1 (4), 1-2, 6.

Champlin, J. R. (1991). Taking stock and moving on. Journal of the National Center for Outcome Based Education, 1 (1), 5-8.

Cook, W. J., Jr. (1992). The urgency of change: The metamorphosis of America's schools. Montgomery, AL: Cambridge Management Group.

Deming, W. E. (1988). Out of the crisis. Cambridge, MA: Massachusetts Institute of Technology.

Evans, K. M. (1992). An outcome-based primer. Minneapolis: University of Minnesota, Center for Applied Research and Educational Improvement.

Evans, K. M. & King, J. A. (1992, April). The outcomes of outcome-based education: Research and implications. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

McGrew, K. S., Thurlow, M. L., Shriner, J. G., & Spiegel, A. N. (1992). Inclusion of students with disabilities in national and state data collection programs (Tech Rep 2). Minneapolis: National Center on Educational Outcomes, University of Minnesota.

McGrew, K. S., Spiegel, A. N., Thurlow, M. L., Ysseldyke, J. E., Bruininks, R, H, & Shriner, J. G. (1992). Outcomes for children and youth with disabilities: Secondary analysis of national data collection programs. Minneapolis: National Center on Educational Outcomes, University of Minnesota.

Freeston, K. R. (1992). Getting started with TQM. Educational Leadership, 50 (3), 10-13.

Hixson, J., & Lovelace, K. (1992). Total quality management's challenge to urban schools. Educational Leadership, 50 (3), 24-27.

King, J. A., & Evans, K. M. (1991). Can we achieve outcome-based education? Educational Leadership, 49 (2), 73-75.

Spady, W. G. (1992). It's time to take a close look at outcome-based education. Communique, 20 (6), 16-18.

Spady, W. G., & Marshall, K. J. (1991). Beyond traditional outcome-based education. Educational Leadership, 49 (2), 67-72.

William T. Grant Foundation Commission on Work, Family, and Citizenship. (1988). The forgotten half: Non-college youth in America. Washington, DC: Author.

Ysseldyke, J. E., Thurlow, M. L., & Shriner, J. G. (1992). Outcomes are for special educators too. Teaching Exceptional Children, 25 (1), 36-50.